

Serial No.: 09/242,525
Art Unit: 1711

Please amend the present application as follows:

CLAIMS

The following is a copy of Applicants' claims that identifies language being added with underlining ("__") and language being deleted with strikethrough ("—") or double brackets ("[[]]")., as is applicable:

1. - 45. (Canceled)

46. (Currently Amended) A process for the preparation of urethane resins comprising the steps of

providing a compound (a) having a hydrolyzable group selected from the group consisting of alkoxy and acetoxy groups directly bonded to 1 to 10 silicon atoms and having an organic group (I) selected from the group consisting of primary amino, secondary amino and acryloyl groups;

providing a compound (b), wherein the compound (b) is selected from one of: acrylate, acryloylsilane compounds, monomaleimide, and maleic anhydride, wherein the compound (b) being is capable of reacting with said organic group (I) of the compound (a);

reacting [[a]] the compound (a) with such an amount of [[a]] the compound (b) as to produce a product (A) having said hydrolyzable group directly bonded to 1 to 10 silicon atoms, wherein the product (A) has a secondary amino group in one molecule, the number of secondary amino groups in one molecule being less than two;

providing a polyisocyanate compound (compound (d));

providing a compound selected from the group consisting of: a polyol compound (compound (c)), a polythiol compound (compound (c-1)), and a compound (product (C)) having a number average molecular weight of 100-25000 and having at least 0.2 terminal secondary amino groups in one molecule, wherein said product (C) is obtained by reacting a compound (e) having an organic group (II) having a number average molecular weight of 100-25000 selected from the group consisting of amino and acryloyl groups, with a compound (f) being capable of reacting with said organic group (II) to form a secondary amine compound;

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reacting the polyisocyanate compound (compound (d)), with the a compound selected from the group consisting of: [[a]] the polyol compound (compound (c)), [[a]] the polythiol compound (compound (c-1)), and [[a]] the compound (product (C)), in order to produce a (thio)urethane pre-polymer (product (B)), wherein the product (B) has a terminal isocyanate group, the content of which is in an amount of 4 % or less by weight of said product (B); and reacting said product (A) with said product (B) in such a proportion to produce a urethane resin having no isocyanate group.

47. (Cancelled)

48. (Currently Amended) A process for the preparation of urethane resins according to claim 46, comprising the steps of:

providing a compound (a) having a hydrolyzable group selected from the group consisting of alkoxy and acetoxy groups directly bonded to 1 to 10 silicon atoms and having an organic group(I) selected from the group consisting of primary amino, secondary amino and acryloyl groups at least two amino groups, each of which is a primary amino group or a secondary amino group;

providing a compound (b), wherein the compound (b) is selected from one of: acrylate, acryloylsilane compounds, monomaleimide, and maleic anhydride, wherein the compound (b) being is capable of reacting with said organic group (I) amino group of the compound (a);

reacting [[a]] the compound (a) with such an amount of [[a]] the compound (b) as to produce a product (A) having said hydrolyzable group directly bonded to 1 to 10 silicon atoms, wherein the product (A) has a secondary amino group in one molecule, the number of secondary amino groups in one molecule being less than two;

providing a polyisocyanate compound (compound (d));

providing a compound selected from the group consisting of: a polyol compound (compound (c)), a polythiol compound (compound (c-1)), and a compound (product (C)) having a number average molecular weight of 100-25000 and having at least 0.2 terminal secondary amino groups in one molecule, wherein said product (C) is obtained by reacting a compound (e) having an organic group (II) having a number average molecular weight of 100-25000 selected

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from the group consisting of amino and acryloyl groups, with a compound (f) being capable of reacting with said organic group (I) to form a secondary amine compound;

reacting the polyisocyanate compound (compound (d)), with the compound selected from the group consisting of: [[a]] the polyol compound (compound (c)), [[a]] the polythiol compound (compound (c-1)), and [[a]] the compound (product (C)), in order to produce a (thio)urethane pre-polymer (product (B)) having a terminal isocyanate group, the content of which is in an amount of 4 % or less by weight of said product (B); and

reacting said product (A) with said product (B) in such a proportion to produce a urethane resin having no isocyanate group[[,]]

~~wherein said compound (a) is a compound (a-2), wherein said compound (a-2) has at least two primary or secondary amino groups or has at least one primary amino group and secondary amino group as said organic group (I).~~

49. - 62. (Canceled)

63. (Currently Amended) A process for the preparation of urethane resins, comprising the steps of:

providing N-β (aminoethyl) γ-aminopropylmethyldimethoxysilane a compound (a) having a hydrolyzable group selected from the group consisting of alkoxy and acetoxy groups directly bonded to 1 to 10 silicon atoms and having an organic group (I) selected from the group consisting of primary amino, secondary amino and acryloyl groups;

providing 2-ethylhexyl acrylate a compound (b), wherein compound (b) is selected from one of: acrylate, acryloylsilane compounds, monomaleimide, and maleic anhydride, wherein compound (b) being capable of reacting with said organic group (I) of compound (a);

reacting the N-β (aminoethyl) γ-aminopropylmethyldimethoxysilane a compound (a) with such an amount of the 2-ethylhexyl acrylate a compound (b) as to produce a product (A) having said a hydrolyzable group directly bonded to a 1 to 10 silicon atoms atom, wherein the product (A) has a secondary amino group in one molecule, the number of secondary amino groups in one molecule being less than two;

providing [[a]] 4,4'-diphenylmethanediisocyanate polyisocyanate compound (compound (d));

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providing a Polyether polyol compound selected from the group consisting of: a polyol compound (compound (e)), a polythiol compound (compound (e-1)), and a compound (product (C)) having a number average molecular weight of 100-25000 and having at least 0.2 terminal secondary amino groups in one molecule, wherein said product (C) is obtained by reacting a compound (e) having an organic group (II) having a number average molecular weight of 100-25000 selected from the group consisting of amino and acryloyl groups, with a compound (f) being capable of reacting with said organic group (II) to form a secondary amine compound;

reacting the 4,4'-diphenylmethanediisocyanate polyisocyanate compound (compound (d)), with the Polyether polyol compound selected from the group consisting of: a polyol compound (compound (e)), a polythiol compound (compound (e-1)), and a compound (product (C)), in order to produce a (thio)urethane urethane pre-polymer (product (B)) having a terminal isocyanate group, the content of which is in an amount of 4 % or less by weight of said product (B); and

reacting said product (A) with said product (B) in such a proportion to produce a urethane resin having no isocyanate group, wherein said compound (a) includes N-(β-aminoethyl)-γ-aminopropylmethyldimethoxysilane, said compound (b) includes 2-ethylhexyl acrylate, said compound (c) includes polyether polyol, and said compound (d) includes 4,4'-diphenylmethanediisocyanate.